

Notes on the subgenus *Svarciella* (Diptera: Sphaeroceridae) with a new species from China

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Abstract: A new species, *Minilimosina* (*Svarciella*) *linzhi* sp. nov. in the subgenus *Svarciella* from China, is described. A key to the species in this subgenus from China is provided.

Key words: *Minilimosina*; taxonomy; key

中国索小粪蝇亚属及一新种记述 (双翅目: 小粪蝇科)

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摘要: 记述我国小粪蝇科索小粪蝇亚属 1 新种: *Minilimosina* (*Svarciella*) *linzhi* Dong & Yang sp. nov., 编制了中国种类检索表。

关键词: 微小粪蝇属; 分类; 检索表

Introduction

Svarciella is a large subgenus in the genus *Minilimosina* with 30 known species. Members of this subgenus can be distinguished from other subgenera by the following combination of characters: mid tibia of male with only minute bristles ventrally or with row of spinules on distal 2/3; mid femur with only single basal ventral bristle or with ventral hairs over most of its length; costa usually weakly surpassing tip of R₄₊₅; male sternite 5 usually with a large posteromedial comb or process; surstylus with a cup-shaped outer lobe and complex set of inner lobes often carrying various spines.

The subgenus was established by Roháček (1983), and revised by Marshall (1985) and Roháček & Marshall (1988), which recognized 27 species worldwide. Subsequently, three more species was added to the subgenus (Roháček 1992, 2010); Carles-Tolra 2001; Roháček *et al.* 2001. The taxonomic studies of *Svarciella* in China are limited with only 5 known species (Su 2011, Dong *et al.* 2014). Here a new species is added to the fauna of China, based on specimens collected from Tibet. A key to the species in this subgenus from China is presented.

Material and methods

The specimens were collected using sweep nets. Abdomens of males and females were removed from specimens and macerated in hot 10% KOH. The materials examined are deposited in the Entomology Museum of China Agricultural University (CAU), Beijing. General terminology and sphaerocerid terminology follows Buck and Marshall (2009), Su *et al.* (2011).

Taxonomy

Family Sphaeroceridae Macquart, 1835

Genus *Minilimosina* Roháček, 1983

Subgenus *Svarciella* Roháček, 1983

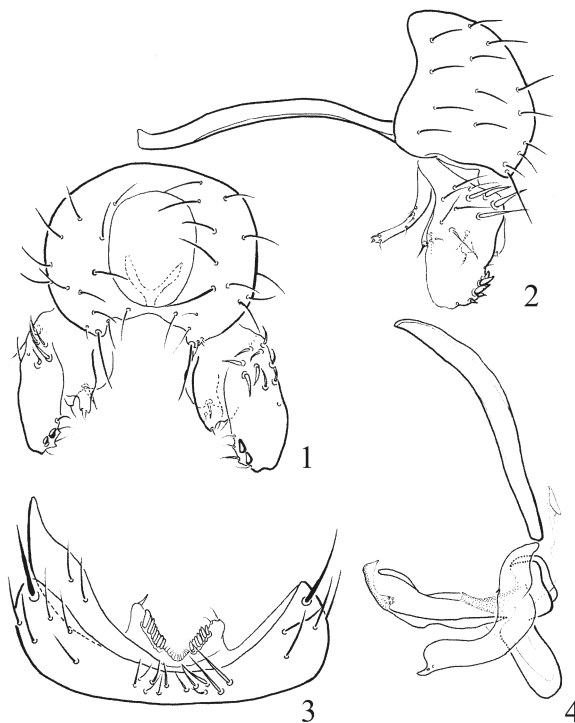
1. *Minilimosina (Svarciella) fanta* Roháček & Marshall, 1988

Minilimosina (Svarciella) fanta Roháček & Marshall, 1988: 249. Type locality: Nepal, Katmandu, Pulchauki.

Distribution. China (Yunnan); Nepal.

2. *Minilimosina (Svarciella) furculipexa* Roháček & Marshall, 1988 (Figs. 1–4)

Minilimosina (Svarciella) furculipexa Roháček & Marshall, 1988: 250. Type locality: Nepal, Arun Valley, below Tumlingtar, River Sabhaya, west shore.



Figures 1–4. *Minilimosina (Svarciella) furculipexa* Roháček & Marshall. ♂. 1. Genitalia, caudal view; 2. Genitalia excluding aedeagal complex, lateral view; 3. Sternite 5; 4. Aedeagal complex, lateral view.

Minilimosina (Svarciella) furculipexa Roháček & Marshall, 1988: 250. Type locality: Nepal, Arun Valley, below Tumlingtar, River Sabhaya, west shore.

Specimens examined. 6♂3♀, **China**, Guangxi, Jinxiu, Luoxiang, 28-VII-2005, Yinxia LIAO; 1♂, Guangxi, Shangsi, Pinglong Mt., 22-V-2006, Yinxia LIAO; 1♂1♀, Tibet, Muotuo, 27-VII-2012, 1100 m, Xuankun LI; 1♂1♀, Tibet, Muotuo, Beibengxiang, 30-VII-2012, 700 m, Xuankun LI.

Distribution. China (Guangxi, Zhejiang, Tibet); Nepal.

3. *Minilimosina (Svarciella) furculisterna* (Deeming, 1969) (Figs. 5–8)

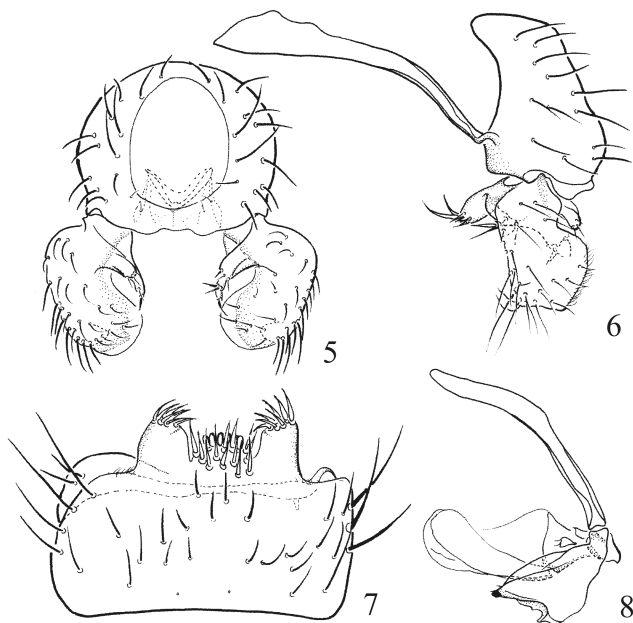
Leptocera (Limosina) furculisterna Deeming, 1969: 70. Type locality: Nepal, Taplejung Distr., between Sangu and Tamrang.

Limosina furculisterna. Hackman, 1977: 403.

Minilimosina (Svarciella) furculisterna. Roháček, 1983: 31.

Specimens examined. 1♂, **China**, Henan, Sanmenxia, Lushi, Yuhuang Mt., 08-VII-2006; 1♂, Yunnan, Tengchong, Jietouxiang, 1500 m, 17-V-2006, Yajun ZHU; 1♀, Yunnan, Tengchong, Zichicun, 19-V-2006, Yajun ZHU; 1♂, Yunnan, Jinping, Fenshuiling Conservation Center, 19-V-2006, Shan HUO; 1♀, Zhejiang, Longquan, Fengyang Mt., Fengyang Lake, 28-VII-2007, Liquan LIU; 1♂, Fujian, Meihua Mt., Qiushan, 31-VIII-2006, Hui DONG; 1♀, Fujian, Longqi Mt., Yujiaping, 26-VIII-2006, Hui DONG.

Distribution. China (Henan, Yunnan, Zhejiang, Fujian); Nepal; Japan.



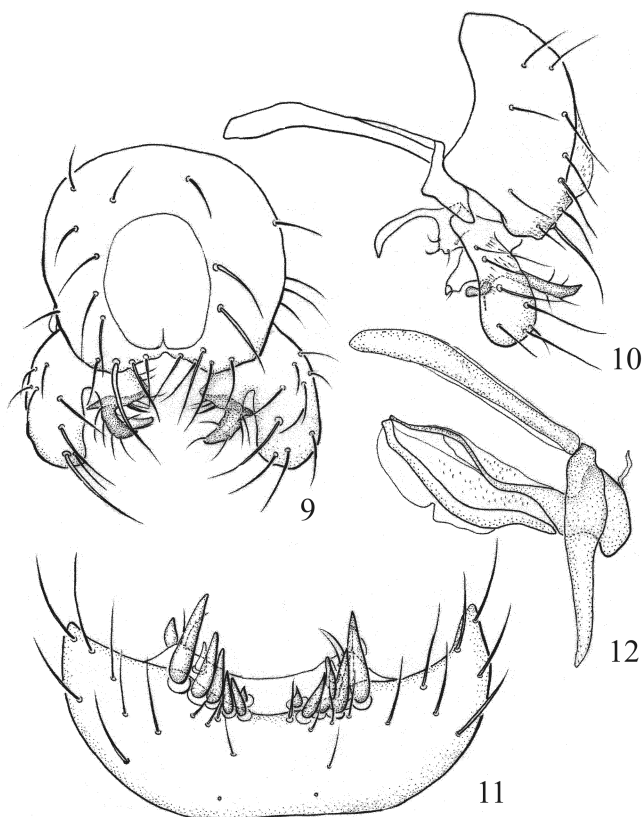
Figures 5–8. *Minilimosina (Svarciella) furculisterna* (Deeming). ♂. 5. Genitalia, caudal view; 6. Genitalia excluding aedeagal complex, lateral view; 7. Sternite 5; 8. Aedeagal complex, lateral view.

4. *Minilimosina (Svarciella) linzhi* Dong & Yang sp. nov. (Figs. 9–12)

Male. Body length 2.0–2.2 mm, wing length 1.5–1.7 mm.

Head black. Face shining black. Antenna yellow; first flagellomere brownish, as long as wide; arista long, aristal cilia as long as that of first flagellomere. Three pairs of weak interfrontals, subequal in length; 2 pairs of orbital bristles, anterior orbital bristle slightly 0.8 times shorter than posterior orbital bristle, 5 times longer than first interfrontal.

Thorax black. Scutellum 1.6 times wider than long, with 2 pairs of scutellar bristles. Legs black; trochanters, bases and tips of femora, bases of tibiae, tips of mid and hind tibiae, mid and hind tarsomeres yellowish. Fore femora with row of posteroventral bristles. Mid femora with 1 subapical anterodorsal bristle. Mid tibia with 2 anterodorsal bristles each at basal 1/4 and 3/4, 1 dorsal bristle at apical 1/5, row of 4 posteroventral bristles, 1 apical bristle ventrally. Wing pale; costa darker. Costa slightly extended beyond apex of R4+5; R4+5 indistinctly sinuate; costal hairs short; Cs2 0.9 times as long as Cs3; dm-cu 1.3 times as long as r-m. Halter black, with base and anteroventral area of knob distinctly white.



Figures 9–12. *Minilimosina* (*Svarciella*) *linzhi* Dong & Yang sp. nov. ♂, holotype. 9. Genitalia, caudal view; 10. Genitalia excluding aedeagal complex, lateral view; 11. Sternite 5; 12. Aedeagal complex, lateral view.

Abdomen dark brown. Sternite 5 (Fig. 11) large and broad, with characteristic posteromedial armature consisting of 10 very robust and acutely pointed spine-like setae posteromedially, which are in front of a microsetulose lobe carrying 6 blunt spines and 4 long bristles. Epandrium (Figs. 9, 10) moderately long and about as high as broad, with short sparse bristles subequal in length. Cercus (Fig. 9) reduced, medially connected by narrow strip.

Surstylus (Figs. 9, 10) complex; outer lobe spoon-shaped, bearing long bristles; anterior part of inner lobe with 1 long and curved anteroventral arm and 1 short ventral projecting bearing several small bristles, posterior part of inner lobe with several projections, internal projection with robust curved blunt spine. Aedeagal complex (Fig. 12) with rob-like phallapodeme, with small dorsal keel; postgonite straight, slightly curved at apical half.

Female. Body length 2.1–2.2 mm, wing length 1.5–1.8 mm. Similar to male.

Holotype. ♂, **China**, Tibet, Linzhi, Hanmi, 06-VIII-2011, Lihua WANG; **Paratypes.** 1♀, same as holotype; 1♂1♀, same as holotype; 1♂, Tibet, Linzhi, Bomi, 21-VIII-2011, Lihua WANG; 1♂1♀, Tibet, Linzhi, Beibeng, 11-VIII-2011, Lihua WANG; 1♂1♀, Tibet, Bomi, Tongmaizhen, 21-VII-2011, Lihua WANG; 3♂, Tibet, Muotuo, 80 K, 23-VII-2013, Xuankun LI.

Etymology. The specific epithetname refers to the type locality of Linzhi.

Distribution. China (Tibet).

Remarks. This new species is closely related to *Minilimosina* (*Svarciella*) *florei* Roháček & Marshall, 1988, but differs from it in the brown fore tarsus. The latter has the yellowish fore tarsus.

5. *Minilimosina* (*Svarciella*) *luteola* Su, 2011

Minilimosina (*Svarciella*) *luteola* Su, 2011: 75. Type locality: China, Yunnan, Tengchong, Laifeng Mountain.

Distribution. China (Shanxi, Zhejiang, Yunnan).

6. *Minilimosina* (*Svarciella*) *vitripennis* (Zetterstedt, 1847)

Limosina vitripennis Zetterstedt, 1847: 2505. Type locality: Sweden, “in Scania ad Esperöd”.

Leptocera (*Scotophilella*) *albifrons* Spuler, 1925: 147. Type locality: USA, Idaho, Kendrick.

Limosina paravitripennis Papp, 1973: 404. Type locality: Mongolia, Bajan-Ölgijaimak, im Tal des Flusses Chavcalyngol, 25 km O von Somon Cagannuur.

Distribution. China (Hebei); Canada; USA; Afghanistan; Andorra; Austria; Belgium; Bulgaria; Canary Is. (Spain); Cyprus; Czech Republic; Denmark; Estonia; Faeroe Is. (Denmark); Finland; France; Germany; Great Britain; Hungary; Iceland; Italy; Latvia; Macedonia; Mongolia; Netherlands; North Korea; Norway; Poland; Romania; Russia; Slovakia; Spain; Sweden; Switzerland; Yugoslavia.

Key to the species of the subgenus *Svarciella* from China

1. Antennae yellow to brownish orange, contrasting with dark head..... 2
- Antennae dull, not contrasting in color with head..... 5
2. First tarsomere of fore leg blackish brown in contrast to whitish rest of tarsus, distinctly paler than yellow mid and hind tarsi..... *M. (S.) furculisterna* (Deeming)
- First tarsus brown, not paler than other tarsi..... 3
3. Abdominal tergites 3–5 darkly pigmented and heavily sclerotized as tergite 1+2.....
- *M. (S.) linzhi* Dong & Yang sp. nov.
- Abdominal tergites 3–5 much paler, often desclerotized and reduced in contrast to large and darkly pigmented syntergite 1+2..... 4
4. Mid and hind tibiae yellow; male sternite 5 with posterior bifurcate lobe caring 2 comb-like rows of blunt spines (Fig. 3)..... *M. (S.) furculipexa* Roháček & Marshall
- Mid and hind tibiae with yellowish distal and proximal ends; male sternite 5 with posteromedial projecting and pointed..... *M. (S.) fanta* Roháček & Marshall

5. Thorax with 4 rows of acrostichal microsetae; male tibia with posterodorsal bristles; posterior lobe of male sternite 5 bifurcated..... *M. (S.) vitripennis* (Zetterstedt)
- . Thorax with 8 rows of acrostichal microsetae; male tibia without posterodorsal bristles; posterior lobe of male sternite 5 cylindrical, not bifurcated..... *M. (S.) luteola* Su

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